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Ceramic Production and Distribution during the Formative Caddo Period: A Stylistic and Provenance Investigation of the Arkansas River Valley

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The Formative Caddo Period (A.D. 850-1100) of eastern Oklahoma was marked by dramatic material and ritual changes, culminating in the construction of aggregated villages and ceremonial centers (Girard et al. 2014). Formative Caddo groups are notable for their highly complex and ritually-charged ceramic vessels that were unlike anything archeologists have seen in the American Southeast (Bell 1984). Tracing the rapid development and spread of this early fine ware assemblage across a variety of social, ritual, and mortuary contexts is key to understanding the shared religious and ritual traditions of the pre-Columbian Arkansas River valley and surrounding Coastal Plain drainages. Yet despite nearly 60 years of archeological research, insight is still lacking into the organization of Formative Caddo ceramic production and the mechanics of exchange between the northern and southern Caddo areas.

While archeologists have shown Formative Caddo fine wares were locally produced in the Red River valley and surrounding Coastal Plain drainages (Girard et al. 2014:27-28), they have assumed that Caddo people in Arkansas River valley and Ozark Plateau locally produced them (Bell 1984). However, they are not recovered from the same contexts across both Caddo areas. Formative Caddo pottery is commonly found in both domestic and ritual contexts at Coastal Plain sites (Bell et al. 1969; Bohannon 1973; Burton 1970; Rohrbaugh 1972, 1973; Wyckoff 1965, 1967, 1968) but are restricted to ritual contexts at ceremonial centers on the Ozark Plateau (Bell 1972; Brown 1996; Schambach 1982, 1988, 1990, 1993). The ritual contexts in which Formative Caddo ceramics are recovered are also quite different. At Coastal Plain ceremonial centers, such as George C. Davis in Texas and Crenshaw in Arkansas, Formative Caddo ceramics were deposited in off-mound, on-mound, and mortuary contexts. Yet, at ceremonial centers of the Ozark Plateau, such as Spiro, Harlan, and Brackett in Oklahoma, Formative Caddo ceramics were deposited exclusively in mortuary contexts. The marked contrast between Formative Caddo pottery use and deposition between the northern and southern ceremonial centers provides insight into the development of Formative Caddo ritual practices and traditions. It suggests there may be fundamental differences in the ritual programs of the northern and southern Caddo areas.

To examine the emergence and spread of these traditions, I am conducting a regional-scale study of the production and distribution of Formative Caddo pottery in the northern and southern Caddo areas. This project has two major components. First, it involves the analysis of clay chemical composition of 264 fine ware sherds from five ceremonial sites in the Arkansas River Basin (Figure 1). I applied for and was granted a National Science Foundation Dissertation Improvement Grant to pay for Instrumental Neutron Activation Analysis (INAA) on these sherds. Once the INAA is completed, I will compare the Arkansas Basin results with previously generated elemental sourcing data from the Coastal Plain region (Perttula and Selden 2013). Secondly, this project involves a stylistic analysis (i.e., following Plog's [1980] and Early's [2012] research on style) of the forms and designs on 199 fine ware vessels to understand their overall design grammar and structure. The sites to be studied include Spiro, Harlan, Norman, Reed, and Brackett in the Arkansas River drainage and Crenshaw, Boxed Springs, George C. Davis, and Mounds Plantation in the Gulf Coastal Plain region (Figure 2). I hypothesize that either (1) Formative Caddo fine wares found in the Arkansas River basin were imported from the Red River valley and surrounding Coastal Plain drainages, where they were fabricated, or (2) Formative Caddo vessels were manufactured in the Arkansas River Basin, but intended use was restricted for mortuary

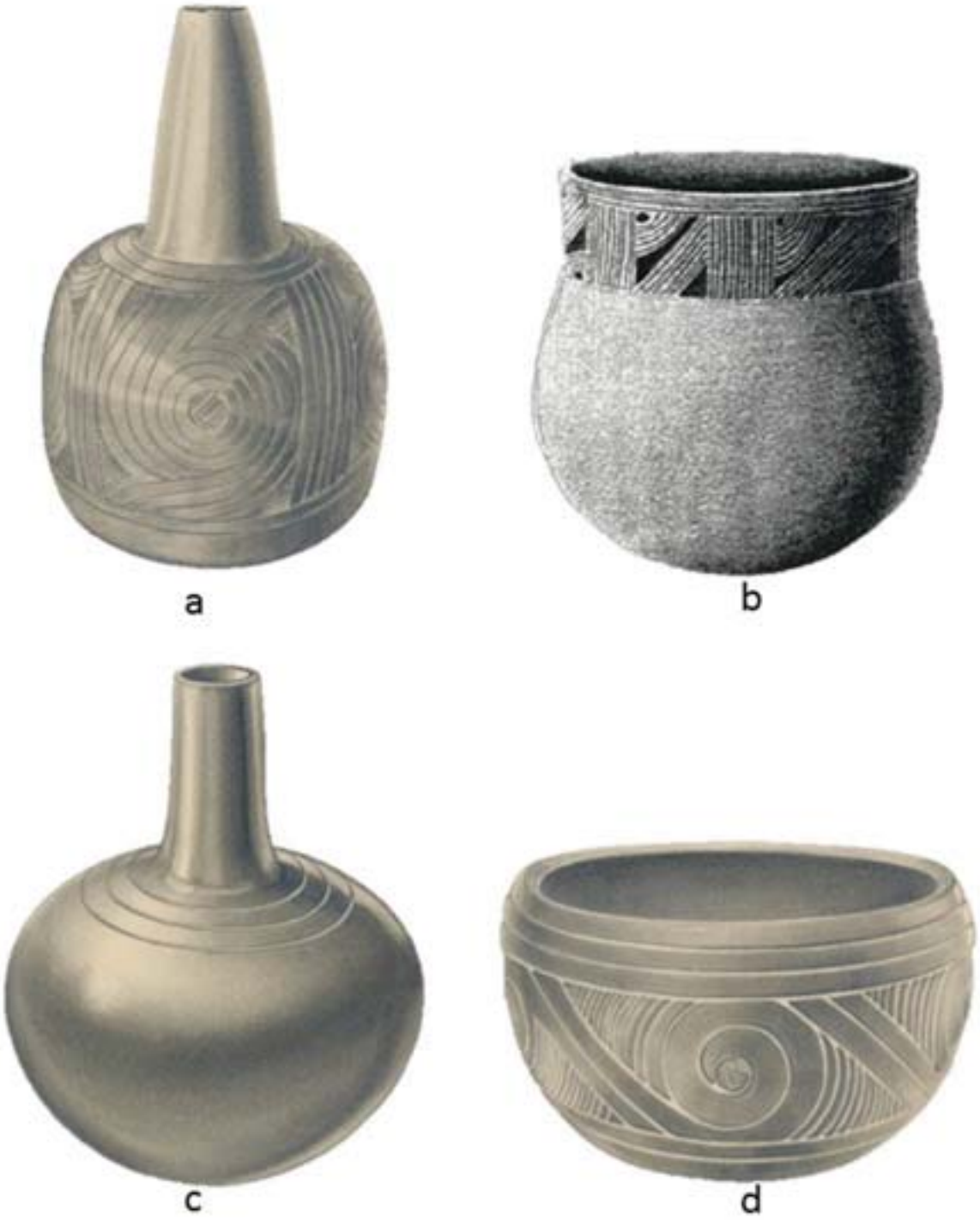

Figure 1. Formative Caddo ceramic types selected for study: a, Spiro Engraved; b, Holly Fine Engraved; c, Hickory Engraved; and d, Crockett Curvilinear Incised.

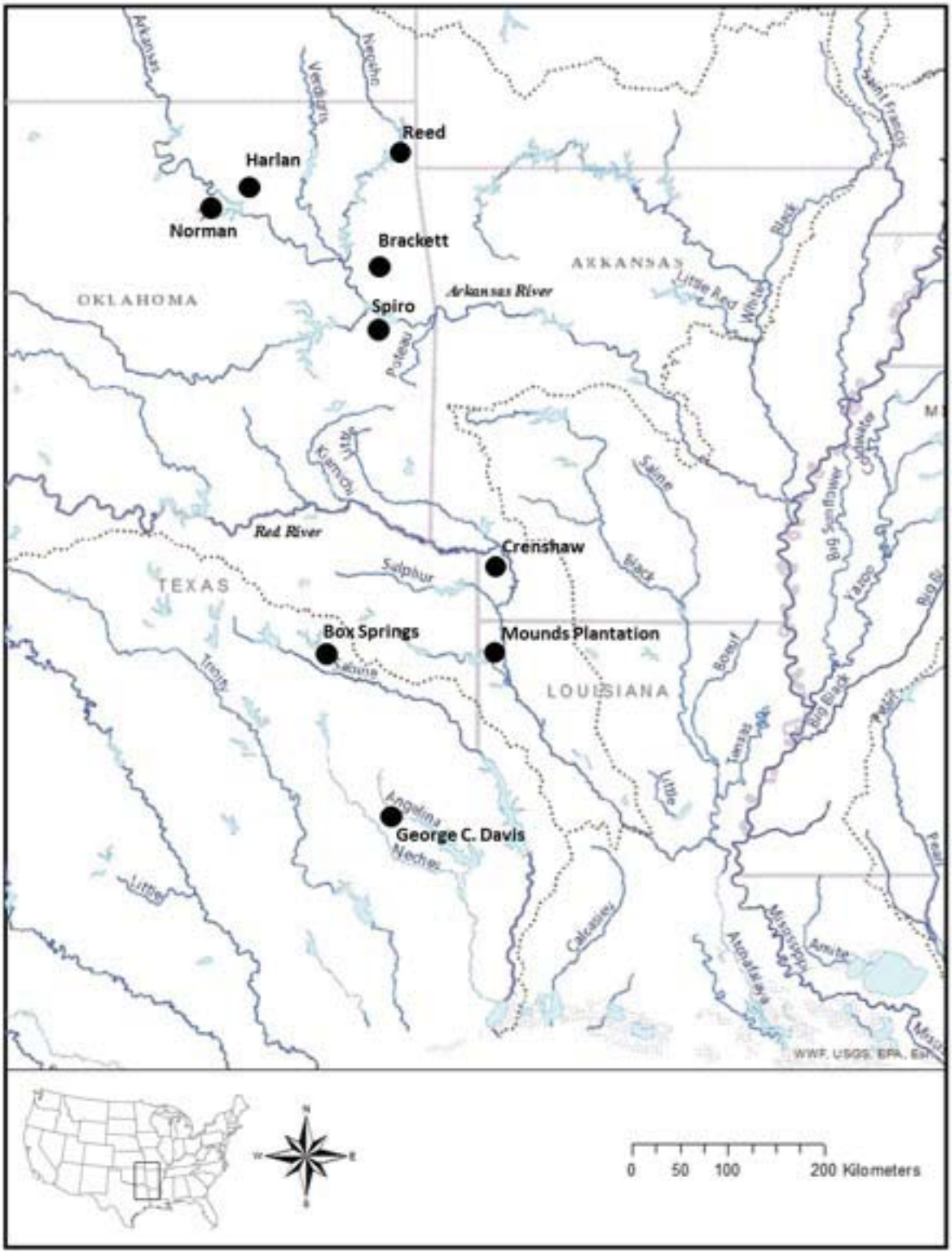

Figure 2. Sites selected for research in eastern Oklahoma and southern Caddo area.

purposes. Whether the first or second hypothesis is supported by this research, it will determine whether this is a single or separate communities of practice, and will have major implications for how we view the integration of these communities and the origins of Caddo ritual traditions.

Ritual Mode of Production, Distribution, and Communities of Practice

If Formative Caddo fine wares were used strictly for mortuary purposes at every major ceremonial center in the northern Caddo area, who made them and what prompted their exchange? Caddo archeologists have not assumed a significant degree of craft specialization during the Formative Caddo period (Girard et al. 2014) because traditionally the idea of specialization for ritual use and wide-scale distribution is thought to be present in more developed or ranked societies (Van Keuren et al. 1997). In fact, craft specialization in societies with an emerging organizational complexity have been primarily attributed to economic or political factors, such as risk avoidance, population increase, or aspiring charismatic leaders (Bell 1984; Blitz 1991; Netting 1990; Price and Brown 1985; Renfrew 1982; Wills 1992; Wilson 1999). An alternative to these models is the "ritual mode of production" in small scale or middle-ranged societies (Spielmann 2002, 2008). This approach argues that intensified craft production and distribution in small-scale groups is a social response to an amplified demand by individuals and communal ceremonial obligations (Spielmann 2002:195). Intensified craft specialization in small scale groups is not so much about meeting the demands of subsistence. Instead, it is about meeting the demand for "socially valued goods" that were used for ritual purposes. Central to this premise is an emphasis on the community in which these socially valued goods were produced and then distributed "as they fulfill ritual obligations and create and sustain social relations" (Spielmann 2002:196-167).

Sassaman (2004:39), when examining the origins and spread of pottery in native North America, reasoned that ritual demand for pottery for ceremonial and mortuary purposes "may have led to increased demand for vessels in general." Saunders and Wrenn (2014) studied the ritual modes of production and distribution of a Late Archaic type called Orange pottery in northeast Florida. Although much more data was needed, their findings suggested that this early pottery may have been produced by potters strictly for ritual use and distribution across different drainages. Moreover, Miller (2014) investigated the ritual economy of bladelets from Hopewell earthworks. Miller's findings suggested that only a few craft specialists may have been responsible for the moderate production and distribution of the stone blades.

Another major thrust of this research is to theoretically frame it with communities of practice to achieve a more nuanced understanding of how and why different Formative Caddo groups emerged and interacted with one another. The theory of communities of practice offers a way to recognize past communities' capacity to be different, and at the same time be socially and ritually connected through a system of social networks that were constituted and maintained by the production and distribution of specific objects (Joyce 2012). A community of practice is defined as a group of experienced producers and apprentices who participate in the learned production of a shared material enterprise (Minar 2001a, 2001b; Stark 2006; Van Keuran 2006). A regional stylistic and INAA study by itself may not necessarily imply more fine-grained scales of organization of pottery production. However, it would seem logical that if one of the primary goals of one or more community of potters was to produce formative fine wares in quantities so that they could be exchanged with northern Caddo groups who utilized them in significantly different ways, then this comparative study would effectively demonstrate a broad but necessary understanding of the organization of pottery production and distribution by emphasizing separate communities of practice.

Motivated by this research, I ask whether northern or southern Caddo communities of potters might have been involved in the production and distribution of Formative Caddo pottery for mortuary use at Arkansas Basin ceremonial centers. Once production locales are determined through INAA, it may show that this mode of ritual production and distribution was an integral way in which Formative Caddo groups created ceremonial obligations and maintained long-

distance relationships with one another. To understand distinct Formative Caddo communities of practice in time and space, one must first have a clear understanding of the social and ritual contexts of ceramic production and distribution (Fenn et al. 2006). Archeologists have a clearer understanding of the organization of pottery production and distribution in the southern Caddo area (Perttula 2013a; Selden 2013; Selden et al. 2014), but still lack the insight necessary to understand pottery production and distribution in the northern Caddo area. Before we can truly recognize more fine-grained scales of pottery production and distribution in the Caddo area, such as household and community scales of production (e.g., Abbott 2009), we first need to untangle the roles of ritual production and distribution by considering the cultural region in its entirety (Renfrew 2001).

Concluding Remarks

By integrating multiple lines of ceramic evidence and considering these finer-scale data in regional contexts, this study will shed light into the intersections of production, distribution, exchange, and ideological dynamics during the Formative Caddo period. Archeologists have not only shown the major archeological implications by highlighting contextual differences in ceramic use and the ritual motivations for production and exchange in a region with small scale societies (Wallis 2014; Wilson 1999), but they have also made known the power of using INAA as a salient method to understand the organization of production and distribution that emphasized unique perspectives of social interactions and ritual practices (Levine et al. 2015; Wallis et al. 2010). This project thus seeks to understand Caddo ritual motivations of formative fine ware production through a detailed INAA and stylistic study that will distinguish which communities of potters produced them across the region. In other words, I will be able to show how the same pottery types mattered differently among separate groups of the Caddo. Whether northern or southern groups produced formative fine wares, this study will add to our current understanding of early Caddo development. Finally, this research will have major implication for how we interpret emerging Caddo ritual practices and traditions, and potentially point to a much larger regional exchange between separate groups of the Caddo much earlier than is currently accepted.

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